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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,606	11/24/2003	Vladimir Fulyigin	13445-022001 / OG-15	4241
26161	7590	08/28/2006	EXAMINER WONG, ERIC K	
FISH & RICHARDSON PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			ART UNIT 2883	PAPER NUMBER

DATE MAILED: 08/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/720,606

Applicant(s)

FUFLYIGIN ET AL.

Examiner

Eric Wong

Art Unit

2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 June 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14, 16-23, 25-29, 31-34, 36, 56, 57, 59 and 62-68 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14, 16-23, 25-29, 31-34, 36, 56, 57, 59 and 62-68 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 06/2006.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims rejected in the prior office action have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-14, 16-23, 25-29, 31-34, 36, 56-57, 59, and 62-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent Number 6,831,934 to Wang et al.

Wang et al. discloses a waveguide comprising:

- A first portion extending along a waveguide axis comprising a first chalcogenide glass (See Wang et al. claim 6); and
- A second portion extending along the waveguide axis comprising a second chalcogenide glass different from the first (Wang uses different doping materials for a double cladding structure), wherein the waveguide is a photonic crystal fiber (figure 15).

As to claim 10, the core is hollow (multi-micro-hollow periodic duck).

As to claims 19-23, the cross sectional areas disclosed appear to correspond to the values as claimed (see column 3, lines 10-14).

As to claims 27 and 29, the EM energy is between 2-15 microns (column 10, lines 18-25) with power of one Watt.

As to claim 33, amplifiers and lasers are disclosed.

As to claims 25-26, and 36, the structure disclosed is that of a Bragg fiber as it comprises a confinement region including multiple layers of different composition (148).

Wang et al. discloses an chalcogenide optical fiber with differing refractive indices, cross sectional dimensions, wavelengths and a laser source, but fails to explicitly disclose the specific refractive index of greater than/less than 2.7, a glass transition temperature above/below 180 degrees, a wavelength of 10.6 microns (common wavelength) or the use of a CO2 laser.

It is respectfully noted that Wang et al. discloses variability of specific values of refractive indices and does not specifically limit the refractive index values. It is further noted that glass transition temperature modification is commonly used in the art and changed by simple doping or addition of elements. Further, Wang et al. discloses any source including that of a laser to be used.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the values as claimed, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233 (MPEP 2131.03 III).

Information Disclosure Statement

4. The information disclosure statements received have been placed in the application file, and the information referred to therein has been considered as to the merits. See the attached forms PTO-1449.

The numerous references and materials listed on the submitted six sheets of the IDS's make it difficult to determine whether or not any of the references, or parts of the references, are material to applicants' claimed invention. It is noted that applicants, in their several IDS submissions, do not indicate any particular reference or parts of references which they deem "material" to the patentability of the pending claims under 37 CFR 1.56(b).

Applicants are reminded of the standard set forth in the leading inequitable conduct case of *J.P. Stevens & Co. v. Lex Tex Ltd.*, 747 F.2d 1553, 223 USPQ 1089 (Nov. 9, 1984), cert. denied, 106 S.Ct. 73 (1985): Where none of the prior art cited during prosecution teaches a key element of the claim(s) and where a reference known to the applicants does, the applicants should know that reference is material. Thus, if applicants are aware of any cited reference from among the information disclosure(s) of attached PTO-1449 that are "material," applicants should make that reference known to the examiner.

It is also noted that a "misrepresentation is material if it makes it impossible for the Patent Office fairly to assess [the patent] application against the prevailing statutory criteria." In *re Multidistrict-Litig. Involving Forst Patent*, 540 F.2d 601, 604, 191 USPQ 241, 243 (3d Cir. 1976); see also *Monsanto Co. v. Rohm & Haas Co.*, 456 F.2d 592, 600, 172 USPQ 323, 329 (3d Cir.), cert. denied, 407 U.S. 934, 174 USPQ 129 (1972). And, the submission of voluminous documents in the instant information disclosure statements (here, in excess of 100 documents) make it difficult, and likely impossible, for the Patent Office to fairly assess applicants' application against the prevailing statutory criteria.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. United States Patent Number 6,404,966 to Kawanishi et al. for a photonic crystal waveguide comprising two portions having a loss coefficient less than 2 dB/m.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Wong whose telephone number is 571-272-2363. The examiner can normally be reached on Monday through Friday, 830AM - 430PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



EW



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